

REMARKS / ARGUMENTS

The Applicants thank the Office for the careful consideration given to their application in the communication mailed 03/20/2007. In that communication, claims 1, 8 – 10, 13, 15 – 20, 30 – 33, and 39 were rejected under 35 U.S.C. 102(b) as being anticipated by JP 11-266031 ("JP '031").

Claims 1, 3, 7, 15, 16, 17, 20, 25, 29, and 39 were rejected under 35 U.S.C. 102(b) as being anticipated by Rosenberg, U.S. Pat. No. 6,274,860 ("Rosenberg").

Claims 2 – 7 and 21 – 29 were rejected under 35 U.S.C. 103(a) as being unpatentable over JP '031 as applied to claims 1, 8 – 10, 13, 15 – 20, 30 – 33 and 39, and further in view of Fleming et al.

Claims 2, 4, 5, 6, 21 – 24, 26, 27, and 28 were rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg as applied to claims 1, 3, 7, 15, 16, 17, 20, 25, 29 and 39, and further in view of Fleming et al.

Claims 11, 12, 34, and 35 were rejected under 35 U.S.C. 103(a) as being unpatentable over JP '031 as applied to claims 1, 8 – 10, 13, 15 – 20, 30 – 33 and 39, and further in view of Tuttle et al., U.S. Pat. Pub. No. 2005/0074915 ("Tuttle").

Claims 14 and 36 were rejected under 35 U.S.C. 103(a) as being unpatentable over JP '031 as applied to claims 1, 8 – 10, 13, 15 – 20, 30 – 33 and 39, and further in view of Taketoshi et al., U.S. Pat. No. 4,451,241 ("Taketoshi").

Claims 37 and 38 were rejected under 35 U.S.C. 103(a) as being unpatentable over JP '031 as applied to claims 1, 8 – 10, 13, 15 – 20, 30 – 33 and 39, and further in view of Takada et al., U.S. Pat. Pub. No. 2002/0063962 ("Takada").

In this Amendment, claim 1 is amended to make it clear that the diffractive surface is selected "to substantially eliminate redirection of incident radiation of the first order." Claim 16 is cancelled, and the subject matter has been combined into claim 17, which also now has the requirement that the diffractive surface is selected "to substantially eliminate redirection of incident radiation of the first order." This amendment is supported in the specification at paragraphs [0025] and [0029].

New claims 40 and 41 have been added to claim the diffractive surface is computer-generated instead of being machine scribed, for example. Because the diffraction surface of the present invention is computer-generated, it has the ability to substantially eliminate the first order diffraction, which cannot be done with mechanical scribing. This element is supported in the specification at paragraph [0004].

With this Amendment, the Applicants submit as evidence for the record a complete English translation of the JP '031 reference, which shows that it did not contemplate computer-generated DOEs or substantially eliminating the first order wave. This results in a great increase in efficiency, which is a surprising and unexpected result.

It is important to note that the above-captioned application names the strongest, central diffraction the "first" order diffraction. Since the application was filed, it appears to have become customary for many in the art to call this the "zeroth" order diffraction. The Applicants intend that references to the first order diffraction in the application and the zeroth order diffraction in other papers refer to the strongest, central diffraction.

The Applicants an English translation of the Japanese reference, but are not submitting a foreign document for overcoming the date of a reference. Therefore, the translation does not have to be certified. The Applicants also point out one obvious error in the translation: wherever the word "dimension" appears, the word should probably be "order". Subject to this correction, the Applicants assert that the attached document is an accurate translation. MPEP 201.15.

The Applicants also submit a Declaration Traversing Rejection that describes how the claims, as amended, define their invention over the JP '031 reference.

Rejections under 102(b) - JP '031

In addressing the rejections of claims 1, 8 – 10, 13, 15 – 20, 30 – 33 and 39 as being anticipated by JP '031, these arguments will focus on independent claims 1 and 17. Claims 1 and 17 have been amended to include an element that is not found in any of the cited prior art, namely a diffractive surface comprising a relief pattern selected to substantially eliminate redirection of incident radiation of the first order such that one or more diffraction orders are substantially reduced or suppressed. This substantial elimination of the first order diffraction is supported in paragraphs [0025] and [0029] in the specification and Figs. 2A, 2B, 4A and 4B of the drawings. JP '031 does not disclose any structure that is capable of eliminating the first order diffraction or mention that it does so, as explained in the attached Declaration Traversing Rejection and the attached English translation.

Because claims 1 and 17 as amended contain an element not found in JP '031, they are no longer anticipated by JP '031. Claims 8 – 10, 13, and 15 depend directly or indirectly from claim 1; and claims 18 – 20, 30 – 33, and 39 depend directly or indirectly from claim 17. They are construed to have all the limitations of their independent claims 1 and 17. 37 C.F.R. 1.75(c). Therefore, the dependent claims are no longer anticipated by JP '031.

Rejections under 102(b) – Rosenberg

Like JP '031, Rosenberg does not disclose any structure that is capable of eliminating the first order diffraction. Because claims 1 and 17 as amended contain an element not found in Rosenberg, they are no longer anticipated by Rosenberg. Claims 3, 7, and 15 depend directly or indirectly from claim 1; and claims 21 – 29 depend directly or indirectly from claim 17. They are construed to have all the limitations of their independent claims 1 and 17. 37 C.F.R. 1.75(c).

Therefore, the dependent claims are no longer anticipated by Rosenberg.

**Rejections under 103(a) – JP '031 / Fleming; JP '031 / Tuttle; JP '031 /
Taketoshi; JP '031 / Takada**

The present amendment to independent claims 1 and 17 adds an element that is not taught or suggested by the cited prior art, alone or in combination. That element is a diffractive surface comprising a relief pattern selected to substantially eliminate redirection of incident radiation of the first order such that one or more diffraction orders are substantially reduced or suppressed. Providing a structure that substantially eliminates the first order diffraction greatly increases efficiency, which is a surprising and unexpected result attested to in the Declaration Traversing Rejection.

Furthermore, the Applicants assert that the Taketoshi reference is nonanalogous art. Taketoshi refers to a method of making a TV camera tube, which is a very different field than the concentration of optical radiation, which is not in the Applicants' field of endeavor or pertinent to the problem with which the inventor is concerned. MPEP 2141.01(a). For these reasons, claims 2 – 7, 11, 12, 14, 21 – 29, and 34 – 38 are not unpatentable under 35 U.S.C. 103(a) and should be allowable.

Applicant suggests that all remaining and new claims are allowable as amended, and respectfully requests that a Notice of Allowance be issued in this case. The Office is encouraged to telephone the Applicants' attorney to quickly resolve any remaining issues.

Respectfully submitted,
/Phillip E. Decker/

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Tel. No. 603-766-1910
Fax No. 603-766-1901

Phillip E. Decker, Reg. No. 39,163
Attorney for Applicant
1 New Hampshire Ave., Suite 125
Portsmouth, NH 03801